Serial Number 10/734,690
Docket Number YOR920030412US1
Amendment2

REMARKS

Claims 1 and 4-31 remain in the application. Claim 2 was cancelled in a previous amendment. Claims 1, 3, 11, and 24 have been amended. Applicant respectfully requests reconsideration of the pending claims in light of the amendments and the following remarks.

CLAIM REJECTIONS UNDER 35 USC §102

The Office Action rejected claims 1, 4-12, 14-25 and 29-31 under 35 USC 102(b) as being anticipated by Long et al. (US 2002/0129079 A1) (hereinafter "Long").

Claim 1, as amended, is not anticipated by Long, for the reason given in the Office Action, page 7, paragraph 4: "Long does not particularly disclose that the runtime system is implemented on a distributed memory system and the directory of shared variables is stored in a private memory of each thread such that it is replicated across all of the threads." Claim 1, as amended, incorporates this very element missing in Long. The claimed subject matter primarily concerns "A control structure is used to control access to the shared data such that all threads can access the data at any time. Since all threads see the same objects, synchronization issues are eliminated. In addition, the improved efficiency of the data sharing allows the number of program threads to be vastly increased." [Abstract]. Long does not teach or suggest providing all threads in a system with global and synchronized access to shared data so that all threads in the system can "see" the same data. Long teaches tracking monitors used for acquiring access to

objects in order to determine if the monitor is suitable for reclamation during a garbage collection process. Long discloses the use of locks and lock counts for tracking so that multiple threads cannot access the same object concurrently. Nowhere does Long teach or suggest the elements of claim 1; in fact, Long teaches away from the claimed subject matter.

For a reference to anticipate a claim, each element and limitation of the claim must be found in the reference. Hoover Group, Inc. v. Custom Metalcraft, Inc., 66 F.3d 299, 302 (Fed. Cir. 1995). Therefore, Applicant submits that the claimed subject matter is not anticipated by Long and therefore the rejection of claim 1 should be withdrawn.

Claim 4 is dependent upon claim 1 and is therefore patentable for at least the same reasons that claim 1 is patentable.

Claims 5 – 10 are dependent upon claim 1; therefore they are patentable for at least the same reasons that their parent claim, claim 1, is patentable.

Claim 11, as amended, is not anticipated by Long for the reason given in the Office Action, page 7, paragraph 4: "Long does not particularly disclose that the runtime system is implemented on a distributed memory system and the directory of shared variables is stored in a private memory of each thread such that it is replicated across all of the threads." Therefore, the rejection to claim 11 should be withdrawn.

Claim 12 is dependent upon claim 11; therefore claim 12 is patentable for at least the same reasons that its parent claim is patentable.

Claims 13, 14, and 15 are dependent upon claim 11; therefore they are patentable for at least the same reasons that their parent claim is patentable.

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Claims 16 – 19 are dependent on claim 15 which is dependent on claim 11; therefore they are patentable for at least the same reasons that claim 11 is patentable.

Claim 20 – 23 are dependent upon claim 11; therefore they are patentable for at least the same reasons that their parent claim is patentable.

Claim 24, as amended, is not anticipated by Long for the reason given in the Office Action, page 7, paragraph 4: "Long does not particularly disclose that the runtime system is implemented on a distributed memory system and the directory of shared variables is stored in a private memory of each thread such that it is replicated across all of the threads." Therefore, the rejection to claim 24 should be withdrawn.

Claim 25 is dependent on claim 24; therefore it is patentable for at least the same reasons that claim 24 is patentable.

Claims 29 and 30 are dependent on claim 24; therefore they are patentable for at least the same reasons that claim 24 is patentable.

Claim 31 is dependent on 29, which is dependent on claim 24; therefore it is patentable for at least the same reasons that claim 24 is patentable.

CLAIM REJECTIONS UNDER 35 USC §103

The Office Action rejected claims 3, 13, and 26-28 under 35 USC 103(a) as being unpatentable over Long in further view of Tanenbaum et al. [Distributed Systems: Principles and Paradigms] (hereinafter "Tanenbaum").

As to claims 3, 13, 26 and 27, the Office Action concedes that Long does not teach or suggest implementing the runtime system on a distributed memory system; and the "directory of shared variables stored in a private memory of each thread such that the directory is replicated across all of the threads." The Office Action states that "Tanenbaum teaches that a distributed memory system (see Tanenbaum, Pg. 16, Fig. 1-6, Private Memory), provides fault-tolerance and increased storage and processing capabilities of the processing system." Here Tanenbaum is merely describing the advantages of a distributed memory system and does not teach the directory of shared variables stored in the private memory of all threads.

The Office Action further states that: "Tanenbaum further teaches that full-replication of shared data provides further fault-tolerance." Again, Tanenbaum is describing a benefit of full replication so that operations may be performed on shared data if one element is lost. Tanenbaum neither teaches nor discloses the claimed subject matter of *how* that shared data is replicated. There are different methods of replicating data and Tanenbaum does not teach the method as claimed in the instant application. Tanenbaum touches on the pros and cons of replication using the example of replication of web pages by caching. He states that an advantage of replication is faster access time, but a disadvantage of replication is "that more network bandwidth is now consumed keeping all replicas up-to-date." [Tanenbaum pg. 293, lines 6-8] Tanenbaum actually teaches away from the claimed subject matter wherein "A control structure is used to control access to the shared data such that all threads can access the data at any time. Since all threads see the same objects, synchronization issues are eliminated. In addition, the improved efficiency of the data sharing allows the number of program threads to

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be vastly increased." [Abstract]

There is absolutely no teaching or suggestion in Tanenbaum to store a directory of shared variables in a private memory of each thread across a distributed system such that the directory is replicated across all of the threads. On the subject of replication, Tanenbaum merely provides a textbook recitation that full-replication of shared data may be beneficial.
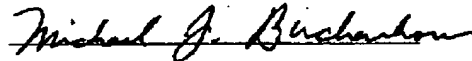
The Office Action erroneously asserts that it would have been obvious to implement the runtime system on a distributed memory and replicate the shared directory across all threads' private memories [Office Action at pages 7 and 8]. "When a rejection depends on a combination of prior art references, there must be some teaching, suggestion, or motivation to combine the references." In re Rouffet, 149 F.3d 1350, 1355, 47 USPQ2d 1453, 1456 (Fed. Cir. 1998) (citing In re Geiger, 815 F.2d 686, 688, 2 USPQ2d 1276, 1278 (Fed. Cir. 1987)). "Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination." ACS Hosp. Sys., Inc. v. Montefiore Hosp., 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). The showing must be clear and particular. Broad conclusory statements regarding the teaching of multiple references standing alone are not evidence. In re Dembiczak, 175 F.3d 994 (Fed. Cir. 1998). In the instant case the showing for the motivation is not clear or specific and therefore the rejection is improper because of an improper use of hindsight.

Claim 28 is dependent on claim 26 which is dependent on claim 24; therefore claim 28 is patentable for at least the same reasons that claim 24 is patentable.

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For the foregoing reasons, Applicant respectfully requests allowance of the pending
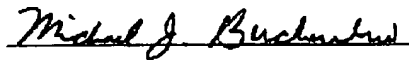
claims.

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Date: January 15, 2007

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Certificate of Facsimile Transmission

I hereby certify that this Amendment and Response to Office Action, and any documents referred to as attached therein are being facsimile transmitted on this date, **January 15, 2007**, to fax number 571 273-8300.

Michael J. Buchenhorner

Date: January 15, 2007

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